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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,530	12/20/1999	PETER J. DANISH	VAL-458-A	2507

7590

07/24/2003

ANDREW R BASILE
YOUNG & BASILE PC
3001 WEST BIG BEAVER ROAD
SUITE 48084
TROY, MI 48084

EXAMINER

PEREZ, GUILLERMO

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 07/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/467,530

Applicant(s)

DANISH ET AL.

Examiner

Guillermo Perez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,15-17,25 and 27-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,15-17,25 and 27-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not disclose means for preventing rotation of the plastic annular sleeve with respect to be housing, as recited in new claims 29, 33, 37, and 41. The specification does not disclose means for preventing rotation of the plastic thrust member with respect to the housing, as recited in claims 31, 35, 39, and 43.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 29-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification as originally filed does not disclose means for preventing rotation of the plastic annular sleeve with respect to be housing, as recited in new claims 29, 33, 37, and 41. The specification as originally filed does not disclose means for preventing rotation of the plastic thrust member with respect to the housing, as

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recited in claims 31, 35, 39, and 43. It is not clear what are the means that prevent the sleeve or the thrust bearing from rotation. The specification does not provide full, clear, concise, and exact explanation of these new limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 5-7, 16, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al. (U. S. Pat. 3,848,477) in view of Oyafuso (U. S. Pat. 5,144,738) and further in view of Henry (U. S. Pat. 1,618,877).

Giandinoto et al. disclose a motor/gear drive having:

- a shaft with a worm gear (R1) carried thereon and a free tip end portion (10) with an outer diameter terminating in an end wall (16); and
- a housing (R5) having a bore (20) formed coaxial with respect to the shaft to be installed therein;
- an annular sleeve (14) within the bore (20) of the housing (R5) concentrically disposed to be positioned about the outer diameter of the tip end portion (10) of the shaft to be installed and to be nominally spaced radially from the outer diameter of the tip end portion (10); and wherein

- the sleeve (14) is operable to support and engage the outer diameter of the tip end portion (10) of the shaft only in response to radial loads acting to deflect the shaft into contact with the annular sleeve (14 and column 2, lines 35-38).

Giandinoto et al. disclose that the sleeve (14) have a bore (12) extending through there, the bore (12) have an inner diameter larger than the outer diameter of the tip end portion (10) of the shaft to be installed.

Giandinoto et al. disclose a thrust member (18) within the bore (20) of the housing (R5) disposed to be in coaxial registry with the end wall (16) of the shaft to be installed, and operable to be in engagement with the end wall (16) of the shaft to be installed to prevent axial movement of the shaft.

However, Giandinoto et al. do not disclose that the thrust member is discrete. Giandinoto et al. do not disclose that the sleeve is made of plastic. Giandinoto et al. do not disclose that the sleeve is injection molded and formed in situ. Giandinoto et al. do not disclose that the thrust member is injection molded and formed in situ. Giandinoto et al. do not disclose that the outer diameter of the tip end portion of the shaft to be installed is larger than a diameter of the thrust member engaging the end wall of the tip end portion of the shaft.

Oyafuso discloses that the sleeve (14) is made of plastic (column 1, lines 35-40). Oyafuso discloses that the sleeve (14) is injection molded (column 4, lines 21-23). Oyafuso discloses that the thrust member (14) is injection molded. Oyafuso discloses that the outer diameter of the tip end portion (13) of the shaft (12) to be installed is

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larger than a diameter of the thrust member (tapered inside surface) engaging the end wall of the tip end portion (13) of the shaft. The invention of Oyafuso has the purpose of providing a self-adjusting clearance for the shaft to have an endplay during operation.

Henry discloses that the thrust member (64) can be discrete or integral with the sleeve bearing (63) (page 1, line 104 through page 2 line 1 and page 2, line 43-45).

Henry's invention has the purpose of equally improving oil circulation in the bearings.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Giandinoto et al. and provide it with the material and bearing configuration disclosed by Oyafuso and Henry for the purpose of providing a self-adjusting clearance for the shaft to have an endplay during operation and improving oil circulation in the bearings.

Referring to claims 1-3, 5, 7, 16, 25, and 27, no patentable weight has been given to the method of manufacturing limitations (i. e. "*formed in situ*"; "*injection molded*") since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thrust bearing discrete since it has been held that

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constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

2. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al. in view of Oyafuso and further of Henry as applied to claim 5 above, and further in view of Ito (U. S. Pat. 4,321,748).

Giandinoto et al., Oyafuso, and Henry substantially teach the claimed invention except that they do not show that the thrust member is injection molded after installing the shaft. Neither Giandinoto et al., Oyafuso, nor Henry disclose that a portion of the end wall of the shaft defines at least a portion of a chamber to receive injected plastic forming the thrust member during injection molding.

Ito discloses that the thrust member (13) is injection molded after installing the shaft (4 and column 2, lines 58-62). Ito discloses that a portion of the end wall (42) of the shaft (4) defines at least a portion of a chamber (13) to receive injected plastic (13) forming the thrust member (13) during injection molding. Ito's invention has the purpose of facilitating the installation of the thrust member into the thrust member chamber.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Giandinoto et al., Oyafuso, and Henry and provide it with the shaft and chamber configuration disclosed by Ito for the purpose of facilitating the installation of the thrust member into the thrust member chamber.

Referring to claims 15 and 17, no patentable weight has been given to the method of manufacturing limitations (i. e. "*the thrust member is injection molded after the installation of the shaft*", "*formed in situ*"; "*injection molded*") since "even though

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

3. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giandinoto et al. in view of Oyafuso and further of Henry as applied to claim 27 above, and further in view of Kikly (U. S. Pat. 5,794,326).

Giandinoto et al., Oyafuso, and Henry substantially teaches the claimed invention except that they do not show a second gate formed in the housing communicating with the second portion.

Kikly discloses a second gate (117a in figures 8-9) formed in the housing (116) communicating with the second portion (115). Kikly's invention has the purpose of allowing escape of air, which is displaced by the injected resin.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Giandinoto et al., Oyafuso, and Henry and provide it with the second gate disclosed by Kikly for the purpose of allowing escape of air, which is displaced by the injected resin.

4. Claims 1-3, 5-7, 16, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyafuso in view of Giandinoto et al. and further in view of Henry (U. S. Pat. 1,618,877).

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Oyafuso substantially teaches the claimed invention except that it does not show that the sleeve is operable to support and engage the outer diameter of the tip end portion of the shaft only in response to radial loads acting to deflect the shaft into contact with the annular sleeve. Oyafuso does not disclose that the thrust member is discrete.

Giandinoto et al. disclose that the sleeve is operable to support and engage the outer diameter of the tip end portion of the shaft only in response to radial loads acting to deflect the shaft into contact with the annular sleeve. The invention of Giandinoto et al. has the purpose of reducing noise in the machine.

Henry discloses that the thrust member (64) can be discrete or integral with the sleeve bearing (63) (page 1, line 104 through page 2 line 1 and page 2, line 43-45). Henry's invention has the purpose of equally improving oil circulation in the bearings.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Oyafuso and provide it with the material and bearing configuration disclosed by Giandinoto et al. and Henry for the purpose of providing a self-adjusting clearance for the shaft to have an endplay during operation and improving oil circulation in the bearings.

Referring to claims 1-3, 5, 7, 16, 25, and 27, no patentable weight has been given to the method of manufacturing limitations (i. e. "*formed in situ*"; "*injection molded*") since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in

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the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thrust bearing discrete since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

5. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyafuso in view of Giandinoto et al. and further of Henry as applied to claim 5 above, and further in view of Ito (U. S. Pat. 4,321,748).

Oyafuso, Giandinoto et al., and Henry substantially teach the claimed invention except that they do not show that the thrust member is injection molded after installing the shaft. Neither Oyafuso, Giandinoto et al., nor Henry disclose that a portion of the end wall of the shaft defines at least a portion of a chamber to receive injected plastic forming the thrust member during injection molding.

Ito discloses that the thrust member (13) is injection molded after installing the shaft (4 and column 2, lines 58-62). Ito discloses that a portion of the end wall (42) of the shaft (4) defines at least a portion of a chamber (13) to receive injected plastic (13) forming the thrust member (13) during injection molding. Ito's invention has the purpose of facilitating the installation of the thrust member into the thrust member chamber.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Oyafuso, Giandinoto et al., and Henry and provide it with the shaft

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and chamber configuration disclosed by Ito for the purpose of facilitating the installation of the thrust member into the thrust member chamber.

Referring to claims 15 and 17, no patentable weight has been given to the method of manufacturing limitations (i. e. "*the thrust member is injection molded after the installation of the shaft*", "*formed in situ*"; "*injection molded*") since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oyafuso in view of Giandinoto et al. and further of Henry as applied to claim 27 above, and further in view of Kikly (U. S. Pat. 5,794,326).

Oyafuso, Giandinoto et al., and Henry substantially teaches the claimed invention except that they do not show a second gate formed in the housing communicating with the second portion.

Kikly discloses a second gate (117a in figures 8-9) formed in the housing (116) communicating with the second portion (115). Kikly's invention has the purpose of allowing escape of air, which is displaced by the injected resin.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Oyafuso, Giandinoto et al., and Henry and provide it with the second

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gate disclosed by Kikly for the purpose of allowing escape of air, which is displaced by the injected resin.

7. Claims 29-36, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyafuso in view of Giandinoto et al. and further of Henry as applied to claims 1, 6, and 25 above, and further in view of Hayashi et al. (U. S. Pat. 4,790,202).

Oyafuso, Giandinoto et al., and Henry substantially teaches the claimed invention except that they do not show means for preventing rotation of the plastic annular sleeve with respect to the housing. Neither Oyafuso, Giandinoto et al., nor Henry disclose that the rotation-preventing means further comprises a gate formed integral with the plastic annular sleeve through the housing.

Hayashi et al. disclose means (13) for preventing rotation of the plastic annular sleeve/ thrust (11) with respect to the housing (9). Hayashi et al. disclose that the rotation-preventing means (13) further comprises a gate (13) formed integral with the plastic annular sleeve/thrust (11) through the housing (9). The invention of Hayashi et al. has the purpose of aligning the central axes of the worm wheel and worm.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Oyafuso, Giandinoto et al., and Henry and provide it with the rotation-preventing means disclosed by Hayashi et al. for the purpose of aligning the central axes of the worm wheel and worm.

8. Claims 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyafuso in view of Giandinoto et al., Henry, and further of Ito as applied to claim 17 above, and further in view of Hayashi et al. (U. S. Pat. 4,790,202).

Oyafuso, Giandinoto et al., Henry, and Ito substantially teach the claimed invention except that they do not show means for preventing rotation of the plastic annular sleeve with respect to the housing. Neither Oyafuso, Giandinoto et al., Henry, nor Ito disclose that the rotation-preventing means further comprises a gate formed integral with the plastic annular sleeve through the housing.

Hayashi et al. disclose means (13) for preventing rotation of the plastic annular sleeve/thrust (11) with respect to the housing (9). Hayashi et al. disclose that the rotation-preventing means further comprises a gate (13) formed integral with the plastic annular sleeve /thrust through the housing. The invention of Hayashi et al. has the purpose of aligning the central axes of the worm wheel and worm.

It would have been obvious at the time the invention was made to modify the motor/gear drive of Oyafuso, Giandinoto et al., Henry, and Ito and provide it with the rotation-preventing means disclosed by Hayashi et al. for the purpose of aligning the central axes of the worm wheel and worm.

Response to Arguments

Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
July 21, 2003

A handwritten signature in black ink, appearing to read 'N. Ponomarenko', with a long horizontal flourish extending to the right.

Nicholas Ponomarenko
Primary Examiner
Technology Center 2800